

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) An information processing system comprising:
first and second of levels of a non-volatile storage hierarchy, wherein accessing information in the first level consumes more energy than accessing information in the second level; and
a processor for storing only strategically selected storage data in ~~to~~ the second level of non-volatile storage based on energy-conserving criteria.
2. (previously presented) The system of claim 1 wherein the energy-conserving criteria comprise criteria compiled using a heuristic approach.
3. (previously presented) The system of claim 1 wherein the energy-conserving criteria comprise system state information.
4. (previously presented) The system of claim 3 further comprising a storage input/output subsystem and wherein the system state information comprises whether the storage input/output subsystem is using one or more specific files.

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5. (previously presented) The system of claim 4 wherein the system state information is selected from the group consisting of:

the storage input/output associated with one or more predetermined software applications;

a sequence of storage input/output operations;

observed interactions with the first level of the storage hierarchy and wherein the collection of heuristics infer the state of the second level of the storage hierarchy; and

a type of energy source powering the system.

6. (previously presented) The system of claim 1 wherein the-energy-conserving criteria comprise limiting use of parts of a file system.

7. (previously presented) The system of claim 3 wherein the system stores current user profiles and the system state information comprises whether storage input/output data are associated with a current user profile.

8. (previously presented) The system of claim 3 wherein the system stores current user preferences and the system state information comprises whether storage input/output data are associated with current user preferences.

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9. (Previously presented) The system of claim 4 wherein the system state information comprises at least one factor from among the following factors:

the storage input/output data associated with the characteristics of the connection between the first and second levels of the storage hierarchy;

the storage input/output data associated with characteristics of the connection between the system and at least one second level of the storage hierarchy;

the proximity of the storage input/output to events that change the state of the at least one first level of the storage hierarchy;

the proximity of the storage input/output to a previous interaction with at least one first level of storage hierarchy;

an indication of a hard-disk drive spin-down event; and

physical characteristics of the second levels of the storage hierarchy.

10. (previously presented) The system of claim 3 wherein the system state information comprises physical characteristics of the second level of the storage hierarchy.

11. (previously presented) The system of claim 1 wherein the second level of the storage hierarchy are implemented using Flash memory.

12. (previously presented) The system of claim 3 wherein the system state information comprises the number of remaining write cycles.

13. (previously presented) The system of claim 1 wherein the processor is for removing information from the second level of storage based on energy-conserving criteria.

14. (previously presented) The system of claim 1 wherein the second level of storage further comprises: a mapping schema between cache files in the second level of storage and disk files in the first level of storage, wherein each cache file is named with a logical cluster number of its corresponding disk file.

15. (previously presented) The system of claim 1, comprising a hard disk drive comprising rotating magnetic media comprising the first level storage and a cache comprising the second level storage and an application-specific integrated circuit for managing the cache according to the energy-conserving criteria.

15. (cancelled)

16. (previously presented) An information handling system, comprising:
first level non-volatile storage for storing information;
second level non-volatile storage for storing information according to a set of energy-saving criteria;
a battery level detector for determining the level of charge in a battery; and
a controller for storing only strategically selected storage data in the second level of storage when the battery level detector determines that the battery charge is below a pre-determined threshold of charge.

17. (previously presented) A method for managing storage of information in an information processing system comprising two levels of non-volatile storage wherein a first level is managed and a second level is unmanaged wherein storing information in managed storage consumes less system resources than storing information in unmanaged storage, the method comprising:

monitoring the system to determine whether the operating state of the system satisfies one or more energy-conserving criteria; and

storing only strategically selected storage data in managed storage when the operating state of the system satisfies one or more energy-conserving criteria.

18. (currently amended) A computer readable medium comprising program instructions for: monitoring a system to determine whether the operating state of the system satisfies one or more energy-conserving criteria; ~~and~~

storing only strategically selected storage data in managed non-volatile storage when the operating state of the system satisfies one or more energy-conserving criteria; and

storing all storage data in non-managed non-volatile storage when the operating state of the system does not satisfy the one or more energy-conserving criteria.

19. (previously presented) An information handling system, comprising:

first and second levels of non-volatile storage, wherein accessing the first level of storage uses more energy than accessing the second level of storage;

an energy use detector for determining the level of energy being used by the system; and

an arbiter for storing only strategically selected storage data in second level storage when the energy use detector determines that the system is being powered by a battery.